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CHARLES HUGH SHAW

THE subject of this sketch was born near Delaware, Ohio, July 14, 1875. He was educated in the public schools of Delaware County and city and in Ohio Wesleyan University located hard by. He received the degree of Ph.D. from the University of Pennsylvania in June, 1900, at the age of twenty-five.

Shaw very early exhibited a strong leaning to the natural sciences and while still in the public school he became thoroughly acquainted with the local flora. In college under the direction of Dr. E. G. Conklin, at that time professor of biology in Ohio Wesleyan, he was appointed an assistant charged with the collection and preservation of a complete herbarium of that flora. Under the inspiration of the same instructor he mastered the elements of zoology, and became saturated with the principles of organic evolution. When Dr. Conklin was called to Northwestern University his successor was a botanist and Shaw was employed to continue the instruction in zoology, which he did for two years with great credit to himself.

Immediately after his graduation in 1897, he took up the advanced study of botany at Pennsylvania under Professor J. M. Macfarlane, whom he had met the previous summer at Woods Hole. While carrying on his graduate studies and for several years thereafter he gave instruction in biology at Temple College. The year he received his doctorate he accepted a place also in the faculty of the Medico-Chirurgical College of Philadelphia. Here he was promoted through the various ranks and became full professor of botany in 1907. Resigning his place in Temple College in 1903, he became professor of biology at Ursinus College near Philadelphia, and continued to hold the two positions, that at the Medical College and at Ursinus, for four years. Upon attaining full rank at the Medical College he gave up the work at Ursinus, and just a few months before his death he resigned at the Medico-Chirurgical to accept an assistant professorship in plant physiology at the University of Pennsylvania.

Dr. Shaw was a field botanist of the first rank. He had collected and studied plants over many parts of the virgin land of the United States, Canada and Europe. The summer of 1899 he spent with Goebel in Munich and the summer of 1906 with Flahaut in Marseilles. The summers of 1904, '05, '07, '08, '09 and '10 he conducted botanical excursions to the Selkirks and Canadian Rockies, and it was while on the last of these that he met his death by drowning in Kinbasket Lake, B. C., July 30, 1910.

Shaw's broad grasp of botanical science is indicated by the following diverse titles among his published studies: "Cleistogamy in *Polygala*," "Embryology of the *Papaveraceæ*," "Development of Vegetation in Morainal Depressions," "The Causes of the Timber Line," etc. During recent years his interest centered more and more in ecological and physiological problems, and at the time of his death he was engaged on some fundamental investigations bearing on the influence of climate and of different light waves on plants. He left a large number of instrument readings on the rate of evaporation, temperature, humidity and insolation obtained at widely different altitudes and exposures in the Selkirks which doubtless will be given to science in due time.

While he was an original and clear thinker on scientific problems, Shaw was even more successful as a teacher. Professor George Palmer a few years ago emphasized four essential qualities of the successful teacher: (1) knowledge; (2) vicariousness, *i. e.*, the ability to take the point of view of the student, (3) clear exposition and (4) enthusiasm or the ability to inspire. I have often thought of Dr. Shaw as embodying these four qualities in a very high degree. His knowledge was not encyclopædic, but was broad and fundamental. He cared not for the out-of-the-way facts, but rejoiced in the large principles of his science. It was for this reason that he advocated the choice in elementary teaching of only such topics as would rouse the student to make original observations and to draw independent conclusions. His views on this principle in

teaching were presented in *SCIENCE* under date of September 11, 1908.

Shaw's ability to see a subject from the student's standpoint was a natural consequence of a sympathetic nature, a youthful and buoyant spirit and his simple-mindedness. There was nothing subtle about his mind and nothing covert about his nature. He was the soul of candor.

Clear exposition depends necessarily upon a clear grasp of a subject in the essentials. It depends also on sharpness of memory pictures and upon strong language powers. In all these Shaw excelled. Facts seemed to fall into his mind in their proper relationship almost without effort on his part. The knitted brow was not a characteristic of his face. Effort to clear up a thought was evinced rather by a wide-open movement of the eyes as if merely to take in all the elements of a situation and the answer was given immediately all were included. His memory for names and for essential facts was almost unfailing. The only fault in Shaw's exposition came on the expressive side. He gave the impression often of hesitation when the real trouble was not lack of a word, but lack of *his own word*. He was not content with the usual mode of expressing a thought. The truth to him was so engaging that it always seemed to require a special search for a word good enough to give it utterance. However, this fault, if fault it may be called, was seldom a hindrance. There was a certain clarity of thought in his very manner and his obvious sincerity won instant attention. He became quite a favorite in many places about Philadelphia as a popular lecturer.

Shaw's emotional side was as strong as his intellect. Truth for him was not merely the solution of a puzzle, nor merely beautiful, it was a sort of blessing. He cared most for that knowledge which had meaning for the largest life of the human spirit; but that meaning for him could not be expressed by any dogma; he must find it for himself. It was this quality—this deep appreciation of truth—that made his teaching inspiring. His class room was popular because through his

clear vision his students got a new insight into nature, the universe, themselves.

Few men have a stronger love of nature in all her moods than had Charles Shaw. Since the age of nineteen, when first he saw the mountains he had spent some time almost every year among them. The Blue Mountains, Catskills, Adirondacks, White Mountains, Selkirks, Rockies, Alps he knew thoroughly. Nearly always he was accompanied by a party of students who learned to camp and to be content under the simplest of conditions—a shelter, a fire, a blanket. They acquired self-reliance and hardihood. They caught his love of life in the open.

Large and strong of body, Shaw was large and strong in his personality. He and I were classmates in college, were post-graduate students together and had been intimate friends ever since. He was the cleanest man I ever knew, and was the best illustration I could give of the beatitude, "Blessed are the pure in heart."

On Christmas day, 1901, Dr. Shaw was married to Miss Blanche Jackson at her home in Waterloo, Iowa. This union had the greatest influence in developing him to full, noble stature. Two most promising children are left with Mrs. Shaw. J. R. MURLIN

THE UNIVERSITY OF ILLINOIS MOVEMENT FOR A UNIVERSITY CONSTITUTION

THE first step toward carrying out the plan devised by President James of forming a constitution for the University of Illinois was taken on Monday evening, March 13, 1911.

President James on that evening met with a committee of the senate consisting of fifteen members of the faculty and outlined to them what he conceived to be the situation, the underlying problems and the possibilities. After speaking of the organization of foreign universities, including those of England and Prussia, President James called the committee's attention to the changing and shifting conditions in the universities of the United States and particularly in the states immediately surrounding Illinois.